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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Robert H. Halstead JR.

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08/09/2005

EXAMINER

VO, TED T

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER  
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ART UNIT

PAPER NUMBER

2192

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/759,695

**Applicant(s)**

HALSTEAD ET AL.

**Examiner**

Ted T. Vo

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/19/05</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This action is in response to the communication filed on 4/19/2005.

Claim 10 is amended. Claims 1-22 are pending in the application.

The 101 issue and the objection to the abstract of the disclosure, which were not raised in the prior action, present in this Office Action. Accordingly, new ground(s) of rejection presents in this action and this action is non-final.

### ***Response to Arguments***

2. Applicants' arguments to Claims 1-22 have been fully considered but not persuasive. Especially, Applicants' argument is that McLennan does not disclose "notifying objects of a change in an option value through a change handler identified by an option binding, the option binding being located by first searching a mapping data structure for a previously computed mapping to the option binding and, if no mapping was previously computed, by then computing the mapping to the option binding and storing the mapping in the mapping data structure."

Examiner disagrees: Within abstract and broad limitation as shown above, McLennan discloses such broad limitation.

In page 81, McLennan mentions object notifying that changes an option, "*the change is propagated down to all of the components that kept option*" and Figure 2-8 shows such object notifying. It should be noted that the reference of McLennan discusses of "Object-Oriented Programming" that includes object binding and mapping as of object-oriented property/principle. All the changes in object components relate to object binding and mapping (See Chapter 1, particularly p. 18). In Chapter 1, its teaching includes mapping and storing data in a mapping data structure. This is setting the basis for the teaching of building Mega-Widgets in the Chapter 2; particularly in p. 81 and Figure 2-8, the teaching is about of discussing the notification of a change.

Applicants in their remarks (p. 8-9) discuss the building Mega-widgets and attempt pointing out the differences. However, as noted above, the Claimed limitation is abstract and broad, the teaching of McLennan covers such limitation. All other Applicants' Arguments are also considered but moot in view of new ground of rejection presenting in this action.

***Specification***

3. The Abstract in the specification is objected to because content of the abstract exceeds more than 150 words in length. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. The claims 1-9, 10-18, 19, and 22, are rejected under 35 U.S.C 101 because the claimed invention is directed to non-statutory subject matter.

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. As per Claims 1-9: The Claims are started with independent Claim 1, where the preamble stated, "A **method of processing comprising**". The preamble does not specify "which/where" in which this method is implemented. In the Claim 1, the body of the claim merely recites two-step elements, "defining an object...", and "notifying objects...". The two step-elements and the preamble fail to limit the claim as a tangible method. The other elements in the method such as "computing" and "storing" do not limit the claim or the two step-elements within a machine-operated claim because computing and storing are also operatable by human idea. Therefore, a person using a pen, papers, and drawings could abstractly

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implement the functionality provided by the recited steps of this method. Furthermore, the two-step elements, "defining an object...", and "notifying objects..." fail to give a concrete result.

According to the analysis above, Claim 1 is more than an abstract idea without a practical application and fails to recite the patentable subject matter as required under the statute of 35 USC § 101 as set forth.

Dependent Claims 2-9 also fail to remedy the deficiencies of independent claim 1.

Claims 1-9 thus are an abstract idea and held nonstatutory.

As per Claims 10-18: The Claims are started with independent Claim 10, where the preamble stated, "**A data processing system comprising**". The body of the claim merely recites a list of functional elements. A person using a pen, papers, and drawings could abstractly implement the functionality and the list of the elements according to the recitations in Claim 10.

According to the analysis above, Claim 10 is more than an abstract idea to ward a list per se without a practical application, and fails to recite the patentable subject matter as required under the statute of 35 USC § 101 as set forth.

Dependent Claims 11-18 also fail to remedy the deficiencies of independent claim 10.

Claims 10-18 thus are an abstract idea and held nonstatutory.

As per Claim 19: The Claim's preamble stated, "**A data processing system comprising**". The body of the claim merely recites means in which a person using a pen, papers, and drawings could abstractly implement the functionality and means as in the recitations of Claim 19. The claim fails to be tangible claim and fail to give a concrete result.

According to the analysis above, Claim 19 is more than an abstract idea without a practical application and fails to recite the patentable subject matter as required under the statute of 35 USC § 101 as set forth.

As per Claim 22: The Claim's preamble stated, "**A computer data signal comprising**". The claim directs to a signal claim which fails to be tangible claim.

Accordingly, Claim 22 is more than an abstract idea and fails to recite the patentable subject matter as required under the statute of 35 USC § 101 as set forth. Claim 22 thus is an abstract idea and held nonstatutory.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3-6, 9-10, 12-15 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over McLennan, Michael J., "Object-oriented Programming with [incr Tcl] Building Mega-Widgets with [incr Tk]" (Art of Record (AU), hereinafter McLennan) in view of Owens et al., US Patent No. US 6,047,284 (hereinafter Owens).

As Per Claim 1, McLennan discloses a method of processing data comprising:

"defining an object ( E.g. see page 86, Figure 2-11 Fileview mega-widget and associated text) with an option data structure (E.g. see page 87, lines 24-30, "usual" option-handling code for scrobars) which supports references to option values (E.g. see page 87, lines 25-26, options -background, -troughcolor) without preallocation of memory space for the full option values;" (E.g. see page 87, line 27, options -background, -troughcolor, -orient and -command ...) and

"notifying objects of a change in an option value through a change handler identified by an option binding, the option binding being located by first searching a mapping data structure for a previously computed mapping to the option binding and, if no mapping was previously computed, by then computing the

mapping to the option binding and storing the mapping in the mapping data structure." (E.g. see page 81, Figure 2-8 and associated text, e.g. page 81, lines 1-3).

McLennan does not explicitly disclose without preallocation of memory for full option values. However, Owens in an analogous art teaches "without preallocation of memory for full option values". (E.g. see col. 3:1-17, which states "...allocating storage space for the object without storage space for an array element if the instantiation request does not specify an initial value for any of the data members of the array element ..."). Therefore, it would have been obvious to incorporate the teaching of Owens into the teaching of McLennan to include without preallocation of memory for full option values. The modification would have been obvious because one of ordinary skill in the art would have been motivated so that the allocation of storage for array elements may be deferred until necessary.

As Per Claim 3, the rejection of claims 1 is incorporated respectively and further McLennan discloses: -the option binding is a most specific option binding given a class and a base option binding. (E.g. see page 79, Figure 2-6 itk\_option and associated text).

As Per Claim 4, the rejection of claims 1 is incorporated and further McLennan discloses:

"change handler code for one option is defined in different classes within a class inheritance hierarchy and the change handler code from each class is executed when the option value changes." (E.g. see page 81, Figure 2-8 and associated text, e.g. page 81, lines 4-13).

As Per Claim 5, the rejection of claims 1 is incorporated and further McLennan discloses:

"an option data structure includes a default value (E.g. see page 83, lines 12-16), the method further comprising, in a get operation to an instance of the class, if an option value which applies to the instance has been set, getting the set option value and, if a value which applies has not been set, getting the default value for the class." (E.g. see page 79, lines 3-9).

As Per Claim 6, the rejection of claims 1 is incorporated and further McLennan discloses:

"the option data structure comprises a linked list of option items having option values." (E.g. see page 79, Figure 2-6 itk\_option and associated text).

As Per Claim 9, the rejection of claims 1 is incorporated respectively and further McLennan discloses:

"the class which supports the option data structure includes defined fields to support values in preallocated memory space." (Again, see as noted above of Claim 1).

As per Claim 10, the system claim is corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

As Per Claims 12-15 and 18, the rejection of claim 10 are incorporated and are rejected under the same reason set forth in connection of the rejection of claims 3-6 and 9.

As per Claim 19 is the system claim corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

As per Claim 20 is the computer-readable medium claim corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

As Per Claim 21, the rejection of claims 20 is incorporated and is rejected under the same reason set forth in connection of the rejection of claim 6.

As per Claim 22 is the computer data signal claim corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

8. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over McLennan in view Owens, further in view of Li et al. (US Patent No. 5,943,496) hereafter Li.

As Per Claim 2, the rejection of claims 1 is incorporated and further the combination of McLennan and Owens does not explicitly disclose the mapping data structure is a hash table. However, Li teaches the mapping data structure is a hash table.(see Column 9, Lines 20-25, "The VMX first registers the component object class name and the component object instance specification in a hash table referred to herein as the object/name table (step 720). The object/name table is for enabling the VMX to identify the component object instance associated with a particular instance name."). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Li into the system of McLennan and Owens, to have the mapping data structure be a hash table. The modification would have been obvious because one of ordinary skill in the art would have been motivated



to use the object/name hash table for enabling the VMX to identify the component object instance associated with a particular instance name by using hash table.

As Per Claim 11, the rejection of claims 1 is incorporated and is rejected under the same reason set forth in connection of the rejection of claim 2.

9. Claims 7-8 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over McLennan in view of Owens, further in view of Hostetter et al., "Curl: A Gentle Slope Language for the Web," World Wide Web Journal, Spring, 1997 (hereinafter Hostetter).

As Per Claim 7, the rejection of claims 1 is incorporated and further the combination of McLennan and Owens does not explicitly disclose a nonlocal option value applies to other objects in a nonlocal option hierarchy. However, Hostetter teaches a nonlocal option value applies to other objects in a nonlocal option hierarchy. (( see Section3, Page 4, Lines 1-2, "The screen shot above reflects the fact the user has selected something besides the default color (red) and quantity (0)."). Color is a nonlocal option because all text in a given document is usually the same color. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Hostetter into the system of McLennan and Owens, to comprise a nonlocal option value applies to other objects in a nonlocal option hierarchy. The modification would have been obvious because one of ordinary skill in the art would have been motivated to implement properties in a dynamically bound environment using a deep binding mechanism.

As Per Claim 8, the rejection of claims 7 is incorporated and further the combination of McLennan and Owens does not explicitly disclose the nonlocal option hierarchy is a graphical hierarchy. However, Hostetter teaches the nonlocal option hierarchy is a graphical hierarchy. ( see Section3, Page 4, Lines 1-2, "The screen shot above reflects the fact the user has selected something besides the default color (red) and quantity (0).") and ( see Section4.3, Page 9, Lines 34-35, "text. Properties control the color, size and font family as well as indicating whether the text should be bold or italic."). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Hostetter into the system of McLennan and Owens, to comprise

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the nonlocal option hierarchy is a graphical hierarchy. The modification would have been obvious because one of ordinary skill in the art would have been motivated represent to a graphic image as a hierarchical tree of Graphic objects (Leaves of the tree are primitive Graphic objects which know how to draw themselves, usually after looking up the values of various properties).

As Per Claims 16-17, the rejection of claim 10 is incorporated and are rejected under the same reason set forth in connection of the rejection of claims 7-8.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted T. Vo whose telephone number is (571) 272-3706. The examiner can normally be reached on 8:00AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3694.

The facsimile number for the organization where this application or proceeding is assigned is the Central Facsimile number, **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ted T. Vo  
Primary Examiner  
Art Unit 2192  
August 05, 2005